



U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation

NRR REVIEW STANDARD

Change Notice

Review Standard No.: **RS-002**

Review Standard Title: **Processing Applications for Early Site Permits**

Effective Date: **May 3, 2004**

Primary Contacts: **Michael Scott**
301-415-1421
mls3@nrc.gov

Responsible Organization: **NRR/DRIP/RNRP**

Summary of Changes: This is the initial issuance of RS-002, "Processing Applications for Early Site Permits." The objective of this review standard is to ensure that staff reviews of applications for early site permits (ESPs) and the associated environmental reports are effective, efficient, and consistent; and that the reviews result in high-quality products.

Note: Change bars in this document indicate changes made from the earlier draft released for public comment and interim use in two parts: December 2002 and April 2003.

Training: See Change History

ADAMS Accession No.: **ML040700094**

TABLE OF CONTENTS

Review Standard RS-002

- 1.0 Purpose
- 2.0 Background
- 3.0 Applicability
- 4.0 Use of This Review Standard
 - 4.1 Process Description
 - 4.2 Public Hearings
 - 4.3 ACRS Review
 - 4.4 Review Criteria
 - 4.5 Use of Existing Information From Nearby Facilities for ESP Applications
 - 4.6 Additional Review Guidance
 - 4.7 Documentation of Review (SER)
 - 4.8 Inspection Guidance
- 5.0 Primary Contact
- 6.0 Responsible Organization
- 7.0 Effective Date
- 8.0 References

Attachment 1 ESP Process Flow Chart

Attachment 2 Scope and Associated Review Criteria for Site Safety Assessment

- Scope and Applicability Table
- 2.1.1 Site Location and Description
- 2.1.2 Exclusion Area Authority and Control
- 2.1.3 Population Distribution
- 2.2.1-2.2.2 Identification of Potential Hazards in the Site Vicinity
- 2.2.3 Evaluation of Potential Accidents
- 2.3.1 Regional Climatology
- 2.3.2 Local Meteorology
- 2.3.3 Onsite Meteorological Measurements Program
- 2.3.4 Short-Term Dispersion Estimates for Accidental Atmospheric Releases
- 2.3.5 Long-Term Diffusion Estimates
- 2.4.1 Hydrologic Description
- 2.4.2 Floods
- 2.4.3 Probable Maximum Flood (PMF) on Streams and Rivers
- 2.4.4 Potential Dam Failures
- 2.4.5 Probable Maximum Surge and Seiche Flooding
- 2.4.6 Probable Maximum Tsunami Flooding
- 2.4.7 Ice Effects
- 2.4.9 Channel Diversions
- 2.4.11 Low Water Considerations
- 2.4.12 Groundwater
- 2.4.13 Accidental Releases of Liquid Effluents in Ground and Surface Waters
- 2.5.4 Stability of Subsurface Materials and Foundations
- 2.5.5 Stability of Slopes

- 3.5.1.6 Aircraft Hazards
- 13.3 Emergency Planning
- 15.0 Radiological Consequences of Design Basis Accidents
- 17.1.1 Early Site Permit Quality Assurance Controls

Attachment 3 Scope and Associated Review Criteria for Environmental Report

Attachment 4 Safety Evaluation Report Template for Early Site Permit Applications

RS-002, “Processing Applications for Early Site Permits”

RS-002 Change History			
Date	Description of Changes	Method Used to Announce & Distribute	Training
5/3/2004	Initial issuance	Communication plan	Briefing for ESP reviewers

NRR REVIEW STANDARD

RS-002

Processing Applications for Early Site Permits

1.0 PURPOSE

This review standard (RS)

- (1) describes the process for reviewing an early site permit (ESP) application and provides guidance for completing the steps in the process (see Sections 4.1 through 4.3 below and Attachment 1),
- (2) provides detailed guidance for review for ESP applications and provides references to review criteria for areas within the scope of the review (see Sections 4.4 through 4.6 below and Attachments 2 and 3),
- (3) provides a sample safety evaluation to be used by the NRC staff as guidance for documenting the results of ESP application reviews (see Section 4.7 below and Attachment 4), and
- (4) provides references to inspection guidance that supports the staff's determinations on ESPs (see Section 4.8 below).

The goal of an RS is to ensure that the staff's reviews of licensing actions are conducted in an effective, efficient, and consistent manner; and that the reviews result in high-quality and timely products. This RS addresses the goals in the NRC's Strategic Plan in a number of ways.

Safety. In the process of developing the ESP RS, the staff has carefully evaluated what information is needed from an applicant, and what the staff's evaluation should address to support issuance of an ESP. Therefore, this process helps ensure that the staff's review of an ESP application will be comprehensive in addressing applicable requirements.

Openness. By making the staff's review standards available to stakeholders, the ESP RS contributes to increasing openness in the regulatory process.

Effectiveness. The ESP RS makes maximum feasible use of existing NRC guidance. The issuance of the guidance in this RS will help ensure that the staff's review of future ESP applications is effective and efficient by consolidating guidance for staff review of an ESP in one document.

2.0 **BACKGROUND**

As discussed in the Statements of Consideration for Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52 (54 FR 15372), the purpose of the ESP regulations in Part 52 is, in part, to make it possible to resolve safety and environmental issues related to siting before an applicant needs to make large commitments of resources. Having obtained an ESP, an applicant for a combined license (COL) for a nuclear power plant or plants can then reference it in the COL application. In accordance with 10 CFR 52.39, site-related issues resolved at the ESP stage will be treated as resolved at the COL stage unless a contention is admitted that a reactor does not fit within one or more of the site parameters in the ESP, a petition alleges that the site is not in compliance with the ESP, or a petition alleges that the terms and conditions of the ESP should be modified.

The ESP application is required to address site safety, environmental protection, and emergency planning. If the applicant desires to perform limited site work after issuance of the ESP, the ESP application must also include a redress plan should no nuclear power plant be constructed on the approved site. Pursuant to 10 CFR 52.17(a)(2), consideration of the need for power, as part of an applicant's environmental report (ER), is not required at the ESP stage. In addition, the Commission has determined (and documented in letters to prospective ESP applicants dated June 2, 2003, e.g. ML031480443) that consideration of alternative energy sources in the ER is not required at the ESP stage.

Once an ESP application is submitted, the NRC staff reviews the ESP application in the three areas of site safety, environmental protection, and emergency planning. The purpose of the review is to determine whether the application meets NRC regulations and the requirements of the Atomic Energy Act. The staff's safety evaluation report (SER) will reach conclusions regarding whether there is reasonable assurance that the site can safely host a future nuclear power plant or plants. In addition, the SER will contain a determination regarding emergency planning based on the level of detail in the emergency planning information provided by the applicant. If the information submitted by the applicant under 10 CFR 52.17(b) is relatively limited, the staff's finding on emergency planning will focus on whether there are significant impediments to the development of emergency plans. If major features of the emergency plans are submitted, the staff will make a determination regarding the adequacy of those features. If complete emergency plans are submitted, the staff will determine whether these plans provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The staff will also develop an environmental impact statement (EIS) in accordance with the National Environmental Policy Act (NEPA) and 10 CFR Part 51. The EIS must address the benefits associated with issuance of the ESP (e.g., early resolution of siting issues, early resolution of issues on the environmental impacts of construction and operation of reactor(s) that fall within the site parameters, and ability of nuclear power plant licensees to "bank" sites on which nuclear power plants could be located, without obtaining a full construction permit or operating license). The benefits (and impacts) of issuing an ESP must always be addressed in the EIS. In accordance with 10 CFR 52.18, the EIS will focus on the environmental effects of construction and operation of a nuclear power plant or plants

whose characteristics fall within the postulated site parameters, and it will include an evaluation of alternative sites to determine whether there is any obviously superior alternative to the proposed site.

This RS provides guidance on the staff's process for reviewing an ESP application and developing the SER. The RS also provides specific technical and format guidance for developing the SER (including emergency planning aspects). Finally, it provides or references staff guidance for reviewing the ER and developing the EIS.

This RS was originally issued as a draft for interim use and public comment in December 2002 (ML023530045). In April 2003, two additional review guidance sections (on accident analysis for the site safety assessment and on quality assurance measures) were issued for interim use and public comment (ML030550117).

Most comments received on the document were made by the Nuclear Energy Institute (ML030970427 and ML031690133) and two prospective ESP applicants (ML030970410 and ML030970418). These commenters focused on the need to provide guidance in RS-002 on review of applications employing the plant parameter envelope (PPE) approach. Other comments focused on the need to be clear regarding the role and NRC treatment of quality assurance measures that support an ESP application, and on clarifying guidance for review of accident analyses in site safety assessments. The remaining comments were mostly recommendations for wording changes in certain technical guidance sections of RS-002. The staff's responses (ML031320110, ML031320006, ML031280718, and ML031920465) to these comments on the draft RS have been incorporated, as appropriate, into the guidance in this RS. Comments were also received from the Nuclear Information and Resource Service (ML031680516) and Ms. Sandra Lindberg (ML031640214); the staff determined (ML031950532 and ML031950337) that RS-002 did not need to be revised to address these comments.

The Commission authorized issuance of RS-002 via Staff Requirements Memorandum dated March 15, 2004 (ML040750590).

3.0 APPLICABILITY

This RS is applicable to ESPs.

4.0 USE OF THIS REVIEW STANDARD

This section provides guidance for use of this document and other documents in processing an ESP application.

4.1 Process Description

Attachment 1 provides a process flow chart that identifies each major step involved in processing an ESP application.

- (1) The staff should follow the process outlined in Attachment 1 and this section for processing ESP applications. Specific guidance for each step is provided below.

The project manager (PM) for the review of each ESP application is responsible for coordinating the staff's review following the process described in this section and illustrated in Attachment 1.

(2) Steps in the ESP Review Process

- (a) The Program Director, New, Research and Test Reactors Program (RNR), will designate a PM for each ESP application submitted or expected to be submitted.

Attachment 2 lists applicable review guidance sections, most of which are appended to Attachment 2.¹ It also lists the primary and secondary NRC technical branches responsible for performing the review of each topic. The PM will be responsible for coordinating the work of the NRC technical branches identified in Attachment 2. The PM will also be responsible for coordinating with the environmental project manager (EPM), whose responsibilities are defined in step (b) below, to ensure that (1) the schedules for development of the SER and the EIS are coordinated, and (2) the two documents are consistent. The PM will accomplish the following:

- Ensure that notice of the NRC's receipt of notification from the potential applicant stating intent to submit an ESP application is posted on the area of the NRC's public web site designated as the single location for the public to identify opportunities for hearings and petitions to intervene.
- Ensure the applicant notifies the PM when the applicant submits the ESP application to the Director, Office of Nuclear Reactor Regulation (NRR), in accordance with 10 CFR 2.101(a).²

¹ The review guidance sections have, in most cases, been developed from NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants." The review guidance sections in this RS differ from sections of similar scope in NUREG-0800 in that they specifically address ESPs, which were not a part of the regulatory process when most sections of NUREG-0800 were last updated. These guidance sections are appended to Attachment 2 of this RS. The staff found that a few, more recent sections of NUREG-0800 provide satisfactory guidance for ESP reviews without the need for significant revision. These sections are referenced in Attachment 2 to this RS, rather than being appended to Attachment 2.

²On January 14, 2004, the NRC published a final rule amending 10 CFR Part 2, "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders." [69 FR 2182] The Rules of Practice in the final rule apply to proceedings noticed after the effective date of the rule, which is February 13, 2004, unless otherwise directed by the Commission. By Order dated March 2, 2004 (ML040620405), the Commission directed that ESP hearings noticed before February 13, 2004, also be conducted under the New Part 2. Therefore, this Review Standard provides staff guidance consistent with the New Part 2.

- Provide guidance to the technical branches and other staff on the process and schedule for the acceptance review of an ESP application.
 - Verify, in accordance with 10 CFR 2.101(a)(2), that a copy of the tendered application is made available for public inspection at the NRC Web site and at the NRC Public Document Room.
 - In consultation with the NRR Work Planning Center, obtain and notify the technical branches of the technical assignment control (TAC) number(s) for the ESP review.
 - Promptly notify the Office of the General Counsel (OGC) of receipt of the ESP application, and ensure that OGC is involved throughout the ESP application review.
 - Ensure that proprietary information submitted in conjunction with the ESP application is handled as required by 10 CFR 2.390 and NRR Office Instruction LIC-204, "Handling Requests to Withhold Proprietary Information from Public Disclosure."
 - Ensure that notice of receipt of the application is published in the *Federal Register*, and that notice of receipt is also posted on the area of the NRC's public web site designated as the single location for the public to identify opportunities for hearings and petitions to intervene.
- (b) The License Renewal and Environmental Impacts Branch (RLEP) will designate an EPM to coordinate review of the ER submitted by the applicant and to coordinate development of the EIS. Attachment 3 lists applicable sections of NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants," that are to be addressed in the EIS and the primary and secondary NRC technical branches responsible for performing the review of each topic. Attachment 3 also provides clarifications (where appropriate) to the guidance of NUREG-1555 that the staff will consider while reviewing an ESP application. The EPM will coordinate the acceptance review of the ESP application with the PM as discussed in step (c) below. The EPM will also coordinate with the PM to ensure that (1) the schedules for development of the SER and the EIS are coordinated, and (2) the two documents are consistent. Finally, the EPM will review the site redress plan (if submitted by the applicant) to ensure, in accordance with 10 CFR 52.25(a), that the final EIS includes a conclusion with respect to whether the activities allowed under 10 CFR 50.10(e)(1) will or will not result in any significant environmental impact that cannot be redressed.
- (c) The PM and EPM will coordinate the determination of whether the application is complete and acceptable for docketing. The PM and EPM will provide copies of the site safety assessment (including emergency planning information) and the ER to the primary review branches designated in

Attachments 2 and 3. Responsible sections within these branches (i.e., sections responsible for performing technical reviews for the subject matter in Attachments 2 and 3) will, within the time frame specified by the PM, provide a memorandum to RNRP (for the safety assessment and emergency planning information) or to RLEP (for the ER) with a conclusion as to whether the information provided for their sections of the ESP application review is reasonably complete and acceptable to support docketing. The criterion for such determination is that information is provided to allow the staff to perform the reviews of the sections of the application assigned to their respective branches in accordance with the standard review plans and other guidance contained or referenced in Attachments 2 and 3 to this RS (i.e., all requirements addressed, no blank or essentially blank sections). During its review, it is possible that the staff will develop requests for additional information (RAIs) in each review area. The acceptance review represents a determination of whether the safety case and the evaluation of the environmental impacts presented in the application are reasonably clear and well supported, such that detailed review and development of RAIs (as needed) are feasible. Therefore, the criterion for the acceptance review is not that the application is complete or sufficient in all respects such that no additional information will be needed, nor is the criterion that it is acceptable for issuance of an ESP. Rather, the application should be reasonably complete. Upon receipt of all inputs from the technical staff, the PM, with input from the EPM, will prepare a letter from the Director, NRR (or other signature authority specified by Office Instruction ADM-200), notifying the applicant that the application is accepted for docketing or is rejected; if the application is rejected, the letter should explain why. The PM will ensure concurrence is obtained and the letter mailed to meet the timeliness requirements of 10 CFR 2.101.

- (d) If the staff determines that the application is reasonably complete such that a detailed review can be initiated, the PM will verify that the applicant has provided the number of copies required by 10 CFR 2.101 to local and State officials. The PM will then docket the application.
- (e) In consultation with the NRR Work Planning Center, the PM will develop a schedule for review of the ESP application and will provide the schedule to the technical branches and other NRC staff. The PM should maintain the schedule throughout the review process and should also keep the ESP applicant informed as to the staff's progress in achieving major milestones.
- (f) The PM will provide training and guidance on the process for review of the safety assessment and development of the SER to technical staff and other NRC staff, as needed.
- (g) The PM will make a public notification in the *Federal Register* of the docketing of the ESP application and will ensure that notice of docketing is also posted on the area of the NRC's public web site designated as the single location for the public to identify opportunities for hearings and

petitions to intervene. In addition, the Secretary of the Commission will issue a notice of hearing and opportunity for petition for leave to intervene as soon as practicable after the application is docketed. This notice may set a date for the initial hearing (consistent with 10 CFR 2.309, at least 60 days after issuance of the notice), or the date may be set in a subsequent notice.

Given the likely duration of an ESP review, it is unlikely that the hearing date will be established in time to be included in the initial notification. Section 4.2 of this RS further discusses the hearing process. The PM will ensure that the notice of hearing and opportunity for petition of leave to intervene is posted on the area of the NRC's public web site designated as the single location for the public to identify opportunities for hearings and petitions to intervene.

- (h) In accordance with Section 2.3 of NRR Office Instruction LIC-101, "License Amendment Review Procedures," the PM will determine whether there are any appropriate precedents for the review of an ESP application. If any are found, the PM will ensure the technical branches involved in the review are aware of the precedents and that the precedents are considered in the review of the ESP application. Technical staff may also identify precedents and should discuss them with the PM as appropriate.
- (i) In consultation with the NRR Work Planning Center, the PM will develop a work plan for processing the safety evaluation, using a similar approach to that specified in Section 2.4 of LIC-101. The plan will define the scope of the review, resources needed for the review, and the schedule for completion of the review. The work plan will be coordinated with technical branches involved in the review. The PM will submit work requests to the appropriate technical branches in accordance with Section 2.5 of LIC-101.
- (j) In accordance with 10 CFR 2.1203, within 30 days of issuance of an order granting one or more petitions to intervene and admitting contentions, the PM will work with OGC to file in the docket, present to the presiding officer, and make available to the parties to the proceeding a hearing file. In addition, within the same period, the PM will work with OGC to make the mandatory disclosures required by 10 CFR 2.336(b).
- (k) Technical branches will perform technical reviews of sections of the safety assessment within their purview, using the guidance of Attachment 2 to this RS and its references. The staff will develop preliminary draft inputs for assigned SER sections, and will concurrently develop RAIs for assigned sections if additional information is needed to support the conclusions needed for the SER inputs. Section 4.3 of LIC-101 provides additional guidance on determining whether RAIs are necessary and appropriate. Technical branches will develop RAIs where needed and will provide them to the PM (may be e-mailed to PM, followed by internal memorandum from cognizant section chief) along with the preliminary draft SER inputs. The PM will compile the RAIs, work with the branch to ensure that the RAIs are clear and have an appropriate regulatory basis, coordinate with OGC for issues within the scope of the hearing, and develop an RAI package in accordance

with LIC-101. If necessary (e.g., to verify whether the RAI package contains proprietary information), the PM may provide the RAI package to the applicant informally, in accordance with NRR Office Instruction COM-203, "Informal Interfacing and Exchange of Information with Licensees and Applicants." The PM will provide the RAI package to the applicant formally by letter or letters. Once the applicant responds to the RAIs, the PM will coordinate review of the responses by the cognizant technical branches. The PM will also review the preliminary draft SER inputs for consistency, format, and content, and will provide feedback to the technical branches to assist in developing the "formal" draft SER sections as discussed in step (k) below.

- (l) Assigned technical branches will develop sections of the draft SER, ensuring that requirements of 10 CFR Part 52 and other applicable regulations are met, and using the guidance of this RS (including in particular the technical guidance sections appended to Attachment 2 to this RS) and its references. Reviewers will ensure that the safety case in all assigned sections of the site safety assessment is adequately supported by clearly identified references as needed.

As discussed in Section 4.7 of this RS, each section of the SER will contain the subsections shown in Attachment 4 to this RS (introduction, regulatory evaluation, technical evaluation, and conclusions). Technical branches will use the general format specified in Attachment 4 unless agreed otherwise by the PM, in consultation with OGC, during the work planning process. Sample content for these subsections is provided in Attachment 4. Sample wording for the "Conclusions" subsection is found under "Evaluation Findings" in the technical guidance sections appended to Attachment 2 to this RS. The actual conclusions will be site- and application-specific.

The inputs to the draft SER will summarize the RAIs developed by the staff (if any) and the applicant's responses to the RAIs. If necessary, the draft SER may contain open items that remain to be addressed by the applicant. As described in Section 4.5 of LIC-101, the SER will include, or summarize and reference, docketed information substantively relied upon by the staff in making its findings. Important assumptions and limitations on the conclusions and findings in each SER section should be clearly identified. Each technical branch developing an input to the draft SER will work with the PM and with other technical branches (including secondary review branches as designated in Attachment 2 to this RS) as needed during development to help ensure that the product submitted is consistent and complete.

- (m) RNRP will provide guidance to the NRC's inspection staff on expected areas for inspection in support of the staff's review of an ESP application. In addition, the PM will request recommendations from the technical branches during development of the SER regarding areas that the NRC's inspection staff should inspect. The PM will compile inputs received and provide them to the inspection staff. When the draft SER is complete, the PM will also provide a copy of that document to the inspection staff. Additional

information and references for the inspection process are provided in Section 4.6 of this RS.

- (n) After the branches prepare the inputs to the draft SER, the technical staff-approved inputs will be provided (via internal memorandum from the cognizant section or branch chief) to the PM, who will compile the inputs into a single integrated SER. The PM is responsible for ensuring that the facts stated in the staff's SER are internally consistent and consistent with those set forth in the applicant's site safety assessment, and that the SER is clearly and professionally written. The PM will work with staff reviewers as needed to correct any identified deficiencies. The PM will then submit the draft SER for technical editing and will incorporate the technical edits where appropriate. If substantive changes are made to the SER, affected technical branches will be asked to reconcur. The completed SER will then be subjected to a review and concurrence process to verify its quality and internal consistency. If substantive changes are made to any input to the draft SER, the PM will notify the providing branch as soon as possible to minimize delays in concurrence caused by disagreements between the PM and technical branches. All technical branches that provided input to the draft SER will be on concurrence.
- (o) The PM will obtain concurrence from OGC, whose review will ensure the draft SER is defensible and complete from a legal perspective, and that counsel has no legal objection to the document.
- (p) As authorized by NRR Office Instruction ADM-200, "Delegation of Signature Authority," the Program Director, New, Research and Test Reactors Program, will approve the draft SER unless another official is designated for this responsibility during work planning for the ESP review.
- (q) If necessary (e.g., to determine whether the draft SER contains proprietary information), the PM may provide the draft SER to the applicant informally, in accordance with COM-203. The PM will provide the draft SER to the applicant formally by letter. The draft SER will be issued as a draft NUREG document and made publicly available. The PM will provide a copy of the draft SER to the Advisory Committee on Reactor Safeguards (ACRS) for its review. (See Section 4.3 of this RS for additional information on the ACRS review.)
- (r) If the draft SER contains open items, the applicant will respond to the open items, and the staff will then review the responses. The resolution of the open items will be described in the final SER. The final SER will be developed in a manner similar to the process just discussed for the draft SER. The staff will revise the draft SER and, after approval of the revised document, will issue it as the final SER. The final SER will be issued as a NUREG document and made publicly available.

- (s) After the environmental review [discussed in more detail in step (b) of this section] is completed, the hearing (discussed in more detail in Section 4.2) is conducted, and the ACRS report (discussed in more detail in Section 4.3) is submitted to the Commission, the Commission will determine whether the ESP application meets applicable standards and requirements of the Atomic Energy Act and the Commission's regulations. The Commission will also determine whether required notifications have been made to other agencies or bodies. If these requirements have been met, the Commission will issue the ESP in accordance with 10 CFR 52.24, with conditions and limitations as the Commission deems appropriate and necessary.

4.2 **Public Hearings**

A hearing is required for the ESP proceeding. OGC is primarily responsible for coordinating the activities associated with the hearing process, with technical support from the staff. The process is governed by Subpart C and Subpart L in 10 CFR Part 2. In certain circumstances, Subpart G, or, in certain circumstances or if all parties agree, Subpart N may govern. For each application, the PM in consultation with OGC will ensure the involved staff are aware of the governing subpart and the requirements associated with that subpart.

The process begins with public notice of the hearing and an opportunity to intervene. This notice is published in the *Federal Register* and posted on the area of the NRC's public web site designated as the single location for the public to identify opportunities for hearings and petitions to intervene.

The Commission may select one or more of its members, an administrative law judge, and administrative judge, an Atomic Safety and Licensing Board (ASLB), or a named officer to preside over the proceeding. If the Commission does not so provide, the chairman of the Atomic Safety and Licensing Board Panel will designate an ASLB or an administrative law judge to preside over the proceeding.

Pursuant to 10 CFR 2.309, any person whose interest may be affected by a proceeding may file a written petition for leave to intervene within the time provided in the notice of hearing, or the time otherwise specified by the Commission, the presiding officer, or the ASLB. Such a petition must specify the contentions that the petitioner seeks to have litigated in the proceeding. A petitioner will not be admitted as a party to the proceeding unless the petitioner submits at least one contention meeting the standards of 10 CFR 2.309. The ASLB or presiding officer rules on each petitioner's standing and the admissibility of the contentions, and any petitioner who is denied intervention may appeal to the Commission. If intervention is granted, discovery is conducted against the applicant and admitted intervenors.³ If an order granting intervention and admitting

³ Under 10 CFR 2.1203(d), discovery is prohibited except as permitted by Subpart C of Part 2. The Statements of Consideration for Part 2 indicate the Commission's expectation that the full disclosure mandated by the new rule will eliminate or substantially reduce the need for traditional discovery tools such as interrogatories, depositions, subpoenas, and requests for admission.

contentions is issued, the staff must notify the presiding officer within 15 days of issuance of the order as to whether it desires to participate as a party. The staff then supports OGC in preparing the hearing file required by 10 CFR 2.1203 and the disclosures required by 10 CFR 2.336. Within 30 days of issuance of the order, the staff must make the disclosures and must file the hearing file on the docket of the proceeding. As set forth in 10 CFR 2.336(d) and 2.1203(c), the NRC staff has a continuing duty to make the disclosures required by 10 CFR 2.336 and to update the hearing file. The staff must disclose any information or documents subject to 10 CFR 2.336 within 14 days of developing or obtaining such information or documents. This phase of the hearing process begins early during the staff's review of the application.

Once the staff has completed the SER and the EIS, the process of preparing for and conducting the hearing begins. Late-filed contentions based on the SER and EIS may be filed. In a contested proceeding (i.e., one in which intervention has been granted, or there is a controversy between the staff and the applicant concerning issuance of the permit or its terms and conditions), the staff will update the hearing file and satisfy its obligation to disclose information pursuant to 10 CFR 2.336(d). In a particular proceeding, the Commission may provide for discovery against the staff.⁴ Motions for summary disposition may then be filed. The parties prepare pre-filed testimony on the contentions remaining in issue. The presiding officer or ASLB then presides over the hearings. In an uncontested proceeding, the presiding officer or ASLB will consider the issues set forth in 10 CFR 2.104(b)(2) and (3), as specified in 10 CFR 52.21. Even if not a party, the staff will supply a witness or witnesses to sponsor the SER and EIS into evidence in the proceeding, whether it is contested or uncontested.

Upon conclusion of the hearings, all parties file proposed findings and reply findings. The ASLB or administrative law judge then issues its initial decision. Petitions for Commission review of the decision may be filed. The Commission then makes a decision on the ASLB/administrative law judge decision and decides whether to issue the ESP.

4.3 ACRS Review

As required by 10 CFR Part 52, the PM will provide a copy of the ESP application to the ACRS after the ESP application is accepted for docketing. The PM will also provide the completed draft SER (with open items, if applicable) to the Committee for its review. The PM will, soon after receipt of the ESP application, discuss the schedule for the Committee's review with the ACRS staff to ensure that Committee resources are available when needed for the review. The PM will also discuss with the ACRS the staff's plans for presentations to the Committee on the ESP application and the results of the staff's review of the application. The Committee will report to the Commission on those portions of the application that concern safety. The staff will include the ACRS

⁴ Under Subpart L of Part 2, the NRC staff may choose not to participate as a party to the proceeding in accordance with 10 CFR 2.1202(b), in which case further discovery would not be made against the staff.

report in the final SER, along with the staff's responses to the Committee's comments and recommendations.

4.4 Review Criteria

Attachments 2 and 3 identify areas to be reviewed for the SER and the EIS, respectively, and the primary and secondary NRC review branches for each area. The attachments are organized by NRC technical branch for ease of use. Primary review branch reviewers will:

- (1) Review the areas of the site safety assessment or environmental report identified in the matrices in Attachments 2 and 3, respectively, that fall within the purview of their branches. The column labeled "Primary Review Branch" identifies the branch responsible for review and development of an SER section or for the review of the environmental impacts for a given area, while that labeled "Secondary Review Branch" identifies review areas in which the designated branch contributes to an SER or EIS section to be developed by another branch.
- (2) Refer to the guidance documents listed in the Section and Comment/Additional Guidance columns of Attachments 2 and 3 for guidance on what to consider when conducting the review. For NUREG-0800 sections applicable to the ESP review and referenced in Attachment 2, references to "the plant" will be deemed to refer to "a nuclear power plant or plants of specified type that might be constructed on the proposed site (or falling within a plant parameter envelope [PPE])."⁵
- (3) Coordinate with reviewers of other branches, as necessary, to ensure that important aspects of a review area are adequately covered during the review.
- (4) Document the results of their reviews (including all necessary inputs from other review branches) for the areas within the purview of their branch.
- (5) Ensure that the reviews are conducted consistent with the review guidance and criteria contained in the guidance documents identified in Attachments 2 and 3 and that any deviations are approved by the appropriate branch chief and communicated with the PM or EPM, as applicable. It should be noted that the sample evaluation findings in each NUREG-0800 section and in each technical guidance section appended to Attachment 2 to this RS use language appropriate for the case in which the applicant has met the acceptance criteria in the section. Should the staff make the determination for a given section that one or more of the acceptance criteria have not been met, the actual findings for that section will need to describe how each criterion has been met or not met.

4.5 Use of Existing Information From Nearby Facilities for ESP Applications

⁵ Attachment 2 provides guidance on review of site safety assessments that include a PPE, and Attachment 3 provides guidance on review of environmental reports that include a PPE.

An ESP applicant may use existing information about the site or facility in support of its application (letter to R. Simard of the Nuclear Energy Institute dated December 18, 2002, ML023500014). The NRC recognizes the advantages of licensing sites and plants in a mature industry environment, rather than in an emerging industry environment as was the case for the majority of the existing plant licenses. For example, an application for an ESP for a location at or near a site for which the NRC has previously granted a construction permit or operating license offers potential advantages over an application for a location for which no prior regulatory findings have been made. The NRC expects that applicants for ESPs will rely on previously filed siting information to the extent feasible, as is permitted under existing NRC regulations. An ESP applicant referencing such information needs to demonstrate that it is applicable to and appropriate for an ESP for its proposed site.

This issue was the subject of a Nuclear Energy Institute (NEI) petition for rulemaking (PRM), specifically PRM 52-1 (ML012060191). The Commission, recognizing that there are practical limitations to using previously filed information and that there were insufficient legal bases for the petitioner's proposals, denied the petition. However, to ensure that future ESP applicants and the public understand the staff's review process, the Commission directed the NRC staff to articulate the specific criteria it will use to make its determination as to whether new siting information is necessary.

For site safety and emergency planning, previously filed information should be evaluated in the individual technical evaluation sections of the SER. Each reference to previously filed information should be clear and specific. The evaluation should document why the information is relevant for the specific use. The staff's evaluation findings should support the staff's conclusions as to whether the applicable regulations have been met. Considerations on potential use of existing information for each aspect of an ESP application review follow.

(1) Docketing and Acceptance Review

In order for an ESP application to be reasonably complete and acceptable for the purposes of docketing and initiating the staff's statutory reviews, it is expected that the applicant would address:

- (a) Why the data or information is relevant to the application and how it satisfies an ESP requirement or demonstrates conformance with guidance
- (b) How such information is incorporated by reference (e.g., provide specific citations to the relevant documents or portions of documents including docket number, date, author, etc.)

(2) Technical Evaluation of Previously Filed Information

General Criteria

For all three aspects of the ESP technical review (i.e., site safety, emergency planning, and environmental protection), the staff should consider the following criteria when reviewing existing, previously filed information:

- (a) Whether the use of the proposed site is similar in nature to the use that the previously filed information supported.
- (b) Whether the proposed use of the site would warrant reconsideration of the previously filed information.
- (c) Whether the specific characteristics of the proposed site (e.g., geography, geophysical, etc.), are similar in nature to those of the site described in the previously filed information. Specifically, the thickness and other engineering properties of soil layers may vary within a short distance. Applicability of the existing information would need to be confirmed by testing and/or investigation of the characteristics of the proposed site.
- (d) Whether the siting measurements made and data used to support approval of the previous licensing action adequately address the parameters needed for the ESP.
- (e) Whether there have been changes to applicable regulatory requirements, for which the applicant would need to indicate how the previously filed information would comply.
- (f) Whether there have been changes to applicable regulatory guidance, for which the applicant would need to indicate how the previously filed information is valid for the new use.
- (g) Whether there is new, applicable, and significant information associated with the site.

Additional guidance for site safety review

For the site safety review, in addition to the general criteria above, quality assurance measures that were applicable to the original collection and analyses of the existing site data should be described to the extent such measures are needed to support the ESP application as discussed in Section 17.1.1 in Attachment 2 to this review standard. Further, it is expected that any additional site characteristic measurements and analyses used to demonstrate the technical relevancy and validity of this existing site data would be performed using quality assurance measures consistent with Section 17.1.1 in Attachment 2 to this review standard. Quality assurance measures applied to existing site data referenced by an ESP application should be reviewed using the review guidance contained in Section 17.1.1.

Additional guidance for emergency planning review

For the emergency planning review, in addition to the general criteria above, the NRC staff will consult with the Federal Emergency Management Agency (FEMA) regarding the acceptability of existing state and local (i.e., offsite) emergency plans and preparedness information if the ESP applicant references such information. Emergency planning information for an existing, operating reactor site (i.e., from a prior licensing action) may be included in an ESP application; either directly, or through incorporation by reference. Such information will be reviewed to verify it (1) is applicable to the proposed site, (2) is up-to-date when the application is submitted, and (3) reflects use of the proposed site for possible construction of a new reactor (or reactors).

The extent to which emergency planning information for an operating reactor site will be reviewed will be dependent upon the specific ESP application. In general, the existing elements of an established emergency preparedness program and emergency planning information that are relevant to, and provided (or incorporated by reference) in the ESP application will be considered acceptable and adequate; and a detailed review will not be necessary. For example, the adequacy of an existing offsite siren system would not be subject to a detailed review.

The adequacy of such referenced elements of an existing emergency preparedness program for an operating reactor site that would include one or more proposed additional reactors would have to be adequately justified in the ESP application. The ESP application would need to clearly indicate the impact of applying an existing emergency preparedness program element to the expanded use of the site, including addressing any necessary changes to the program in support of the new reactor(s). For example, letters of agreement, reflecting contacts and arrangements made with local and state governmental agencies with emergency planning responsibilities, might need to be revised to reflect the anticipated presence of an additional reactor (or reactors) at the site. Such revised letters of agreement should reflect any impact the additional reactor(s) would have on government agency emergency planning responsibilities, and should include acknowledgment by the agencies of the proposed expanded responsibilities.

Another acceptable method of addressing this issue would be through the use of separate correspondence. Such correspondence might be appropriate, for example, in a case for which an existing letter of agreement is written in a way that is broad enough to cover an expanded site use, and does not need to be revised. The correspondence would identify this fact.

Additional guidance for environmental protection review

Two tools are available to allow an ESP applicant to take advantage of previously-filed information that supports the environmental report. In 10 CFR 51.29(a), the NRC would use the scoping process to “identify and eliminate from detailed study those issues which are peripheral or are not significant or which have been covered by prior environmental review” and to identify other environmental assessments and impact

statements that are “related to but are not part of the scope of the statement under consideration.”

In addition, tiering allows Federal agencies to rely on previous environmental assessments (EAs) and EISs to aid in the presentation of issues, eliminate repetition, or reduce the size of an EIS. Tiering is encouraged by the Council on Environmental Quality (see 40 CFR 1520.20), and the NRC’s regulations permit the use of tiering and incorporation by reference (see 10 CFR Part 51, Appendix A.1.(b)).

4.6 Additional Review Guidance

Additional guidance on certain subjects is provided in this subsection.

(1) Plant Parameter Envelope (PPE)

A PPE is a set of values of plant design parameters that an ESP applicant expects will bound the design characteristics of a reactor or reactors that might be constructed at a given site, and it serves as a surrogate for actual reactor design information. Use of this approach allows an ESP applicant to defer the decision on what design to build to the COL stage. An applicant may use a PPE as a surrogate for facility design information to support demonstration of compliance with 10 CFR 52.17 (letter to R. Simard of the Nuclear Energy Institute dated February 5, 2003, ML030230071). The staff expects that margins applied to account for uncertainties in PPE values will be identified in each application. Each staff reviewer should determine whether the PPE values are sufficient to support the review, and that the PPE values are not unreasonable for consideration in the staff findings to comply with 10 CFR Part 52, Subpart A. Review guidance sections appended to Attachment 2 of this RS provide additional guidance on review of a PPE used in specific site safety assessment subject areas. In addition, Attachment 3 to this RS provides guidance on use of a PPE in the ER to support the staff’s environmental review. Concerns regarding an applicant’s use of PPE values in a reviewer’s area should be discussed promptly with the PM or EPM as appropriate.

Given that PPE values do not reflect a specific design and will not be reviewed by the NRC staff for correctness, the granting of an ESP by the NRC does not indicate NRC approval of the site for any specific plant or type of plant. In addition to the emergency preparedness and environmental impact findings, site approval will be contingent on the staff’s ability to make a finding, taking into consideration the site criteria contained in Subpart B of 10 CFR Part 100, that a reactor or reactors having design characteristics that fall within the PPE can be constructed and operated without undue risk to the health and safety of the public. This finding may result in conditions or limitations on the ESP in specific areas, as set forth in 10 CFR 52.24.

The combination of site characteristics and PPE values will comprise the ESP bases that will be the focus for comparison should a COL application be submitted for the site. COL applicants who reference an ESP bear the risk that the design ultimately selected for the approved site might fall outside of the terms and conditions of the ESP.

(2) ESP Duration

The staff has documented (letter to R. Simard of the Nuclear Energy Institute dated February 5, 2003, ML030160592) certain positions regarding the duration of an ESP. Each ESP applicant is expected to seek a specified permit duration in accordance with 10 CFR 52.27. The staff will then review the application from the perspective of the proposed permit duration. Factors considered with respect to the requested duration include the uncertainties of the application information and data provided (e.g., parameters such as population distributions and man-made hazards) and the uncertainties of the methodologies used to make future projections. The staff's review with respect to time-dependent site characteristics should be based on values representative of the end-of-life (i.e., ESP expiration) conditions at the site.

Each staff reviewer should consider whether the information in the ESP application supports the acceptability of the requested ESP duration for that reviewer's subject area. Shortcomings in the submitted information should be addressed through the RAI process. For example, if any of the application information regarding site characteristics (e.g., meteorology, geology) can only be demonstrated to be reliable for an interval less than the requested time period, the cognizant reviewer should develop RAIs to seek additional information to support determinations that those characteristics will be acceptable for the requested ESP duration.

SER inputs should reflect determinations regarding whether there is reasonable assurance that information submitted supports the duration requested. Pursuant to 10 CFR 52.24, the Commission will issue an ESP in the form, and containing the conditions and limitations, that the Commission deems appropriate and necessary. Should the NRC staff determine, after the receipt of RAI responses, that the information submitted does not support the requested time period, the staff will notify the ESP applicant of that fact to provide the applicant with an opportunity to supplement its application. The applicant can either provide additional information to support the full duration requested, or it can amend its application to revise the duration requested.

(3) Site Preparation Work and Limited Construction Activities

The regulations in 10 CFR 52.25 allow the ESP holder the option of performing site preparation work and limited construction activities allowed by 10 CFR 50.10(e)(1) without seeking the separate authorization required by that section. The applicant should identify the activities that it seeks to perform in the ESP application. In addition, the applicant must provide, in accordance with 10 CFR 52.17(c), a site redress plan in the event those activities are performed and the ESP expires before it is referenced in an application for a construction permit or COL. The application must provide reasonable assurance that redress carried out under the plan will achieve an environmentally stable and aesthetically acceptable site. If the staff concludes in the EIS that the plan meets these criteria, the plan can be incorporated into the ESP, and the applicant may carry out the activities allowed by 10 CFR 50.10(e)(1) without obtaining the separate authorization required by that section.

Should an ESP applicant submit a site redress plan, RLEP will review the applicant's site redress plan in accordance with guidance in NUREG-1555 as indicated in Attachment 3 to this RS and will document, in the EIS, its conclusions regarding the adequacy of the plan for redressing the impacts of the activities allowed by 10 CFR 50.10(e)(1).

4.7 Documentation of Review (SER)

Attachment 4 contains a sample SER template for use in reviewing a safety assessment for an ESP application and developing the resulting SER. Reviewers will do the following:

- (1) Adapt or revise the text in the sample SER to capture site-specific information, and add text as needed, using Attachment 2 to this RS and its references for guidance.
- (2) Develop the regulatory evaluation section in the SE for assigned areas of review as appropriate for the licensing basis of the site under review, using the guidance of Attachment 4 to this RS and Section 4.5 of LIC-101.
- (3) Summarize their technical review and findings in the technical evaluation sections of the SE for assigned review areas as discussed in Section 4.5 of LIC-101.
- (4) Review the conclusions sections of the sample SER, as well as the evaluation findings subsections in guidance sections appended to Attachment 2 of this RS (or NUREG-0800 sections if shown in Attachment 2 as applicable), for guidance on documenting conclusions reached as a result of the review.
- (5) Recognize that section headings for the SER are intended to closely adhere to the organization of this RS, which is consistent with the headings in NUREG-0800. Because many parts of NUREG-0800 are inapplicable for the ESP stage, there will be gaps in the heading numbers in the SER for an ESP application. RNRP will indicate in the SER why these sections are inapplicable.
- (6) Provide evaluations (including a regulatory evaluation, technical evaluation, and conclusion section) related to areas not covered by the Attachment 2 if necessary. Intent to provide such additional evaluations should be discussed early in the review process with RNRP. (This guidance is intended to cover cases for which, on a site-specific basis, it is determined that additional sections are necessary to appropriately cover the applicant's request and to ensure that the site-specific SE adequately describes the staff's review effort related to the site-specific application.)
- (7) Identify areas (e.g., confirmatory items) for which inspection by the NRC's inspection staff is recommended.
- (8) Identify proposed conditions or limitations on an ESP should one eventually be issued to a given applicant.

4.8 Inspection Guidance

The Inspection Manual Chapter (IMC) 2500 series describes the inspection process for the construction of nuclear power reactors through the startup and operations phase. IMC 2501 describes the ESP phase of reactor licensing under the 10 CFR Part 52 regulatory process. It provides guidance for inspectors to use in conducting inspections during the pre-application and post-application phase in support of the hearing required by the Atomic Energy Act. Subsequent manual chapters provide specific guidance to inspectors on what to inspect during the various phases of construction of nuclear power plants.

5.0 PRIMARY CONTACT

Michael L. Scott
NRR//DRIP/RNRP
301-415-1421
mls3@nrc.gov

6.0 RESPONSIBLE ORGANIZATION

NRR/DRIP/RNRP

7.0 EFFECTIVE DATE

This RS is effective May 3, 2004.

8.0 REFERENCES

- (1) 54 FR 15372, 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants"
- (2) NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants"
- (3) NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants"
- (4) NRR Office Instruction LIC-101, "License Amendment Review Procedures"
- (5) NRR Office Instruction COM-203, "Informal Interfacing and Exchange of Information with Licensees and Applicants"
- (6) NRR Office Instruction LIC-204, "Handling Requests to Withhold Proprietary Information from Public Disclosure"
- (7) NRR Office Instruction ADM-200, "Delegation of Signature Authority"

- (8) NRC Inspection Manual Chapter 2501, "Nuclear Reactor Inspection Program, Early Site Permit"